

CH2M HILL Hanford Group, Inc.	Manual	ESHQ
MACHINE GUARDING	Document	TFC-ESHQ-S-STD-21, REV A-2
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	Issue Date	November 8, 2006
	Effective Date	November 8, 2006

[Ownership matrix](#)

1.0 PURPOSE AND SCOPE

This standard establishes the minimum requirements for machine guarding in compliance with 29 CFR 1910, Subpart O (5.1.1) and 29 CFR 1926, Subpart I (5.1.2). Examples of machines that normally require guards at the point of operation are guillotine cutters, shears, alligator shears, power presses, milling machines, power saws, jointers, portable power tools, and forming rolls and calendars.

This standard applies to all CH2M HILL Hanford Group (CH2M HILL) employees and subcontractors.

2.0 IMPLEMENTATION

This standard is effective on the date shown in the header.

3.0 STANDARD

3.1 General

Managers and supervisors are responsible for ensuring that this standard and the following minimum requirements for machine guarding are appropriately applied:

1. All machines covered by this standard must be provided with the proper guards, installed in accordance with the manufacturer's recommendations and as required by the applicable sections of 29 CFR 1910, Subpart O (4.1) and 29 CFR 1926, Subpart I. (5.1.1, 5.1.2)
2. Guards must be provided for, and installed on all belts, gears, shafts, pulleys, sprockets, spindles, drums, flywheels, chains, or other reciprocating, rotating, or moving parts exposed to contact by employees or that may otherwise create a hazard.
3. Guards must be attached to machines (where possible) or secured elsewhere if the guard(s) cannot be attached directly to the machine. Guards shall be installed so that they do not create a hazard.
4. Safety input and approval must be obtained when manufacturer recommendations for guarding a specific machine are not available or cannot be implemented.
5. Maintenance or repair work on guarded machines must be performed only when the machine is properly shut down and all hazardous conditions are eliminated.

Employees are responsible for ensuring that this standard and the following minimum requirements for machine guarding are appropriately applied:

1. Machines are operated only when all guards are in place, are properly attached, and are functioning properly.

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2. Machines are not operated unless properly guarded according to the manufacturer's recommendations and within requirements of this standard.
3. Maintenance or repair work on guarded machines must be performed only when the machine is properly shut down and all hazardous conditions are eliminated.

NOTE: Consult [TFC-OPS-OPER-C-05](#) for more specific information.

3.2 Specific Guards Required

Managers and supervisors are responsible for ensuring that this standard and the following minimum requirements for specific machine guards are appropriately applied:

1. Fans: If blade tips of a fan are installed less than seven feet above the floor or working level, guard the blades with a guard having openings no larger than one-half inch wide.
2. Point of operation and any nip points: Guard nip point or points of operation on machines that expose employees to injury. If this is not possible or practical (such as for drill presses, belt sanders, etc.), use procedures, personal protective equipment, and work practices adequate to ensure that the work can be performed safely.
3. Machinery/Processes that Cause Sparks/Chips: Guard machines and operations that expose employees to chips, sparks, flying particles, or other debris.
4. Belts and Conveyors: Guard conveyor belts, head pulleys, tail pulleys, single tension pulleys, dip tank-in pulleys, and idlers that are exposed to contact by employees.

3.3 Special Tools Required Where Hand Access Required

Managers and supervisors are responsible for ensuring that this standard and the following minimum requirements for special tools use are appropriately applied:

1. Hand feeding tools (i.e., push sticks) must be provided, as necessary, so that operators' hands remain out of danger zones.
2. Hand feeding tools must not be used in-place of any guards required by this standard; all required guards must be in place before operating a machine.

Employees are responsible for ensuring that this standard and the following minimum requirements for special tools use are appropriately applied:

1. Hand feeding tools (i.e., push sticks) must be available and used to keep hands out of danger zones.
2. Hand tools must not be used as a substitute for required guards; all required guards must be in place before operating a machine.

3.4 Anchoring Installed Machines

Managers/supervisors must ensure that machines designed for fixed installation are securely anchored to prevent motion or "walking."

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4.0 DEFINITIONS

Hand feeding tool. Any hand held tool designed for placing or removing material or parts to be processed within or from the point of operation.

Nip point. A device that encloses the pulley and is provided with rounded or rolled edge slots through which a belt passes.

Point of operation. That point at which cutting, shaping, boring, or forming is accomplished upon the stock and shall include such other points as may offer a hazard to the operator in inserting or manipulating the stock in the operation of the machine.

Pinch point. Any point, other than the point of operation, at which it is possible for a part of the body to be caught between the moving part of a press or auxiliary equipment and the rest of the equipment.

5.0 SOURCES

5.1 Requirements

1. 29 CFR 1910, Subpart O, "Machinery and Machine Guarding." (S/RID)
2. 29 CFR 1926, Subpart I, "Tools - Hand and Power." (S/RID)

5.2 Requirements

1. TFC-POS-OPER-C-05, "Lockout/Tagout Program."